

# Montana Board of Oil and Gas Conservation Environmental Assessment

**Operator:** Slawson Exploration Company, Inc.  
**Well Name/Number:** Cricket 1-30-19H  
**Location:** (SW SW) Lot 4 Section 30 T23N R55E  
**County:** Richland, MT; Field (or Wildcat) Wildcat

## Air Quality

(possible concerns)

Long drilling time: No, 20-25 days drilling time.

Unusually deep drilling (high horsepower rig): Triple derrick rig to drill a single lateral horizontal Bakken Formation test, 19,850' MD/9,995' TVD.

Possible H<sub>2</sub>S gas production: Slight chance H<sub>2</sub>S gas from Mississippian Formations.

In/near Class I air quality area: No Class I air quality area in the area of review.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

- ☒ Air quality permit (AQB review)
- ☐ Gas plants/pipelines available for sour gas
- ☐ Special equipment/procedures requirements
- ☐ Other: \_\_\_\_\_

Comments: Triple derrick drilling rig to drill a single lateral horizontal Bakken Formation test, 19,850' MD/9,995' TVD. If there is an existing pipeline for associated gas/H<sub>2</sub>S gas in the area and gas can be gathered or if no gathering system nearby associated gas/H<sub>2</sub>S gas can be flared under Board Rule 36.22.1220.

## Water Quality

(possible concerns)

Salt/oil based mud: Yes to intermediate string hole to be drilled with oil based invert (80/20) drilling fluids. Horizontal lateral will be drilled with oil based invert (80/20) drilling fluids. Surface casing hole will use freshwater and freshwater mud system, Rule 36.22.1001.

High water table: No high water table at this location.

Surface drainage leads to live water: Yes, surface drainage does lead to live water, Fox Lake, about 4.7 miles to the southeast, from this location. Closest drainages are an unnamed ephemeral tributary to Fox Lake, about 1/4 of a mile to the south and about 3/8 of a mile to the northeast from this location.

Water well contamination: None, closest water wells are about 3/4 of a mile to the north, about 7/8 of a mile to the northeast, about 1 mile to the southeast, and all other water wells are 1 mile and further away from this location. Depth of these water wells range from 30' to 272'. This well will drill surface casing hole with freshwater and freshwater drilling fluids to 1800' (Rule 36.22.1001) and will run 1800' of steel surface casing and cement it back to surface.

Porous/permeable soils: No, sandy clay soils.

Class I stream drainage: No, Class I stream drainages in the area of review.

Mitigation:

- ☐ Lined reserve pit
- ☒ Adequate surface casing
- ☐ Berms/dykes, re-routed drainage
- ☒ Closed mud system
- ☒ Off-site disposal of solids/**liquids** (in approved facility)
- ☒ Other: Lined (12 mil synthetic liner) cuttings pit for cutting disposal on wellsite.

Comments: 1800' surface casing well below freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer, Rule 36.22.1001. Adequate surface casing and BOP equipment to prevent any problems (BOP's 5,000 psig annular, pipe and blind rams) rule

### **Soils/Vegetation/Land Use**

(possible concerns)

Stream crossings: None anticipated, crossing only ephemeral drainages.

High erosion potential: Yes, possible high erosion potential on moderate cut slope. The location will require a moderate cut, up to 19.3' and a small fill, up to 4.1', required.

Loss of soil productivity: None, location to be restored after drilling well, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, large well site 360'X350', single well location for the Cricket #1-30-19H.

Damage to improvements: Slight, surface use is cultivated land.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☐ Other: \_\_\_\_\_

Comments: Access will be over existing county road, #125. Operator will construct about 2.4 miles of new access road into this location from the existing county road. Oil based invert drilling fluids will be recycled. Completion fluids will be trucked to a Class II disposal. Operator will utilize a closed loop mud system. Cuttings and mud solids will be disposed of in the lined cuttings pit. No concerns.

### **Health Hazards/Noise**

(possible concerns)

Proximity to public facilities/residences: Closest residences are about 7/8 of a mile to the northeast and about 1.5 miles to the southeast from this location. The town of Lambert, Montana is about 5.2 miles to the southeast and the town of Richey, Montana is about 17 miles to the southwest from this location.

Possibility of H<sub>2</sub>S: Slight chance H<sub>2</sub>S gas from Mississippian Formations.

Size of rig/length of drilling time: Triple drilling rig 20 to 25 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H<sub>2</sub>S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: Adequate surface casing cemented to surface with a working BOP stack should mitigate any problems, (BOP's 5,000psig annular, pipe and blind rams) rule 36.22.1014.

### **Wildlife/recreation**

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): Closest Game Management Area is Fox Lake State Game Management Area, about 2.8 miles to the southeast from this location.

Proximity to recreation sites: Recreation site is Fox Lake State Game Management Area, about 2.8 miles to the southeast from this location.

Creation of new access to wildlife habitat: No, none.

Conflict with game range/refuge management: No, none.

Threatened or endangered Species: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Least Tern, Whooping Crane and Piping Plover. Candidate species are the Sprague's Pipit and the Greater Sage Grouse. NH tracker website indicates zero (0) species of concern in this area.

Mitigation:

☐ Avoidance (topographic tolerance/exception)

☐ Other agency review (DFWP, federal agencies, DSL)

☐ Screening/fencing of pits, drillsite

☐ Other: \_\_\_\_\_

Comments: This is private cultivated surface lands. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern are discovered at this location.

### **Historical/Cultural/Paleontological**

(possible concerns)

Proximity to known sites: None identified.

Mitigation

☐ avoidance (topographic tolerance, location exception)

☐ other agency review (SHPO, DSL, federal agencies)

☐ Other: \_\_\_\_\_

Comments: This is private cultivated surface lands. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite.

### **Social/Economic**

(possible concerns)

☐ Substantial effect on tax base

☐ Create demand for new governmental services

☐ Population increase or relocation

Comments: Wildcat well. No concerns.

### **Remarks or Special Concerns for this site**

A single lateral horizontal Bakken Formation test, 19,850' MD/9,995' TVD.

### **Summary: Evaluation of Impacts and Cumulative effects**

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/ Steven Sasaki

(title:) Chief Field Inspector

Date: June 14, 2013

Other Persons Contacted:

Bureau of Mines and Geology, GWIC website

(Name and Agency)

Water wells in Richland County, Montana

(subject discussed)

June 14, 2013

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA

COUNTIES, Richland County

(subject discussed)

June 14, 2013

(date)

Montana Natural Heritage Program Website

(Name and Agency)

Heritage State Rank= S1, S2, S3 T23N R55E

(subject discussed)

June 14, 2013

(date)

Montana Cadastral Website

(Name and Agency)

Surface Ownership and surface use Section 30 T23N R55E

(subject discussed)

June 14, 2013

(date)

If location was inspected before permit approval:

Inspection date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Others present during inspection: \_\_\_\_\_